Amendments to the Claims

1. (currently amended) Process for depositing a multiplicity of layers on a substrate by means of gaseous starting materials, the layer sequence comprising at least one oxide layer and a metal layer deposited thereon, said metal layer being deposited from a metalorganic starting material that is converted into a gas phase, and the layers being deposited in a single process chamber in successive process steps by simply altering the gas phase composition in the process chamber and/or the substrate temperature, characterized in that between the individual process steps the process chamber is pumped out and purged with inert gas, the exhaust-gas which is pumped out of the process chamber being analyzed for residual constituents of the starting material and/or for solvent, and the purging operation being terminated only when this residual gas concentration and/or the solvent concentration drops below a minimum value.

2. (withdrawn) Apparatus for depositing a multiplicity of layers on a substrate by means of gaseous starting materials, the layer sequence comprising at least one oxide layer and a metal layer deposited thereon, having a process chamber for depositing the layers in successive process steps, it being possible, between the process steps for layer deposition, to alter the gas phase composition in the process chamber and/or the substrate temperature, characterized by a pump for pumping out the process chamber between the individual process steps and a device for purging the process chamber with inert gas in a purging operation between the process steps, and a residual gas analyzer for analyzing the exhaust-gas pumped out of the process chamber for residual constituents of the starting material and/or for solvent and for interrupting the purging operation when the residual gas concentration drops below a minimum value.

3. (currently amended) Process ~~or apparatus~~ according to claim 1, characterized in that the walls of the process chamber are ~~or can be~~ controlled to different temperatures.

4. (previously presented) Process according to claim 1, characterized in that in the first process step a metalorganic starting material, which may optionally have been dissolved in a solvent, is converted into the gas phase and is introduced into the process chamber, if appropriate together with the solvent, by means of a showerhead-like gas inlet member, and the gas inlet member and the process chamber are purged with inert gas after the supply of this starting material has been switched off.

5. (previously presented) Process according to claim 4, characterized in that in the second process step a dielectric layer is deposited on the metal layer, as a result of a perovskite, which has optionally been dissolved in a solvent, as starting material being converted into the gas phase and being introduced into the process chamber, if appropriate together with the solvent, by means of the showerhead-like gas inlet member, and the gas inlet member and the process chamber being purged with an inert gas after the supply of this starting material has been switched off, the exhaust-gas which has been pumped out of the process chamber being analyzed, in particular by mass spectrometry, for residual constituents of the starting material, and the purging operation being terminated only when the residual gas concentration, in particular the oxygen concentration, drops below a minimum value.

6. (previously presented) The process as claimed in claim 5, characterized in that in a third process step a metal layer is deposited on a dielectric layer which has previously been deposited, a metalorganic starting material, which has optionally been dissolved in a solvent, being converted into the gas form and being introduced into the process chamber, if appropriate together with the solvent, by means of the showerhead-like gas inlet member, and the gas inlet member and the process chamber being purged with an inert gas after the supply of this starting material has been switched off, the exhaust-gas which is pumped out of the process chamber being analyzed, in particular by mass spectrometry, for residual constituents of the starting material and/or the solvent, and

the purging operation being terminated only when the residual gas concentration drops below a minimum value.

7. (previously presented) Process according to claim 6, characterized in that the purging of the process chamber with the inert gas is associated with one or more pressure changes.

8. (previously presented) Process according to claim 7, characterized in that the first metal layer is a platinum layer.

9. (previously presented) Process according to claim 8, characterized in that the dielectric layer consists of a barium-strontium-titanium-oxygen compound.

10. (previously presented) Process according to claim 9, characterized in that the second metal layer is a ruthenium layer.

11. (new) Process for depositing a multiplicity of layers on a substrate by means of gaseous starting materials, the layer sequence comprising at least one oxide layer and a metal layer deposited thereon, and the layers being deposited in a single process chamber in successive process steps by simply altering the substrate temperature, characterized in that between the individual process steps the process chamber is pumped out and purged with inert gas, the exhaust-gas which is pumped out of the process chamber being analyzed for residual constituents of the starting material and/or for solvent, and the purging operation being terminated only when this residual gas concentration and/or the solvent concentration drops below a minimum value.